

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 10/574,752  
Source: 1 Fwd  
Date Processed by STIC: 11/28/06

# ***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 11/28/2006

PATENT APPLICATION: US/10/574,752

TIME: 14:45:42

Input Set : A:\TSRI9861SEQ.TXT

Output Set: N:\CRF4\11282006\J574752.raw

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4 <110> APPLICANT: LUO, Yunping
5     REISFELD, Ralph A.
6     XIANG, Rong
7     THE SCRIPPS RESEARCH INSTITUTE
9 <120> TITLE OF INVENTION: DNA VACCINES AGAINST TUMOR GROWTH AND
10    METHODS OF USE THEREOF
12 <130> FILE REFERENCE: TSRI 986.1
14 <140> CURRENT APPLICATION NUMBER: US 10/574,752
15 <141> CURRENT FILING DATE: 2006-04-06
17 <150> PRIOR APPLICATION NUMBER: PCT/US2004/033137
18 <151> PRIOR FILING DATE: 2004-10-07
20 <150> PRIOR APPLICATION NUMBER: US 60/509457
21 <151> PRIOR FILING DATE: 2003-10-08
23 <160> NUMBER OF SEQ ID NOS: 10
25 <170> SOFTWARE: FastSEQ for Windows Version 4.0
27 <210> SEQ ID NO: 1
28 <211> LENGTH: 954
29 <212> TYPE: DNA
30 <213> ORGANISM: HOMO SAPIENS
32 <400> SEQUENCE: 1
33 agccgtgtac cccgcagagc cgccagcccc gggcatgttc cgagacttcg gggaaaccgg 60
34 cccgagctcc gggaaacggc gcgggtacgc cggccccgcg cagcccccg cgcagcgcga 120
35 ggcagcccag cagaagttcc acctggtgcc aagcatcaac accatgagtg gcagtcagga 180
36 gctgcagtgg atggtacagc ctcatcttcc ggggccagc agttaccca ggcctctgac 240
37 ctaccctcag tacagcccc cacaaccccg gccaggagtc atccgggccc tggggccgcc 300
38 tccaggggta cgtcgaaggc cttgtgaaca gatcagcccc gaggaagagg agcgcgccgcg 360
39 agtaaggcgc gagcggaaca agctggctgc ggccaagtgc aggaaccgga ggaaggaact 420
40 gaccgacttc ctgcaggcgc agactgacaa actggaagat gagaaatctg ggctgcagcg 480
41 agagattgag gagctgcaga agcagaagga gcgcctagag ctggtgctgg aagcccaccg 540
42 acccatctgc aaaatcccgc aaggagccaa ggagggggac acaggcagta ccagtggcac 600
43 cagcagccca ccagcccct gccgcccgtg acctgtatc tcccttccc cagggcctgt 660
44 gcttgaacct gaggcactgc acacccccac actcatgacc acaccctccc taactccttt 720
45 cacccccagc ctggtcttca cctaccccag cactcctgag ccttgtgcct cagctcatcg 780
46 caagagtagc agcagcagcg gagacccatc ctctgacccc cttggctctc caaccctcct 840
47 cgctttgtga ggcgcctgag ccctactccc tgcagatgcc accctagcca atgtctcctc 900
48 cccttcccc accggtccag ctggcctgga cagtatccca catccaactc cagc 954
50 <210> SEQ ID NO: 2
51 <211> LENGTH: 271
52 <212> TYPE: PRT
53 <213> ORGANISM: HOMO SAPIENS
55 <400> SEQUENCE: 2
56 Met Phe Arg Asp Phe Gly Glu Pro Gly Pro Ser Ser Gly Asn Gly Gly
57 1 5 10 15

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58 Gly Tyr Gly Gly Pro Ala Gln Pro Pro Ala Ala Ala Gln Ala Ala Gln
59          20          25          30
60 Gln Lys Phe His Leu Val Pro Ser Ile Asn Thr Met Ser Gly Ser Gln
61          35          40          45
62 Glu Leu Gln Trp Met Val Gln Pro His Phe Leu Gly Pro Ser Ser Tyr
63          50          55          60
64 Pro Arg Pro Leu Thr Tyr Pro Gln Tyr Ser Pro Pro Gln Pro Arg Pro
65 65          70          75          80
66 Gly Val Ile Arg Ala Leu Gly Pro Pro Pro Gly Val Arg Arg Arg Pro
67          85          90          95
68 Cys Glu Gln Ile Ser Pro Glu Glu Glu Arg Arg Arg Val Arg Arg
69          100         105         110
70 Glu Arg Asn Lys Leu Ala Ala Ala Lys Cys Arg Asn Arg Arg Lys Glu
71          115         120         125
72 Leu Thr Asp Phe Leu Gln Ala Glu Thr Asp Lys Leu Glu Asp Glu Lys
73          130         135         140
74 Ser Gly Leu Gln Arg Glu Ile Glu Glu Leu Gln Lys Gln Lys Glu Arg
75 145         150         155         160
76 Leu Glu Leu Val Leu Glu Ala His Arg Pro Ile Cys Lys Ile Pro Glu
77          165         170         175
78 Gly Ala Lys Glu Gly Asp Thr Gly Ser Thr Ser Gly Thr Ser Ser Pro
79          180         185         190
80 Pro Ala Pro Cys Arg Pro Val Pro Cys Ile Ser Leu Ser Pro Gly Pro
81          195         200         205
82 Val Leu Glu Pro Glu Ala Leu His Thr Pro Thr Leu Met Thr Thr Pro
83          210         215         220
84 Ser Leu Thr Pro Phe Thr Pro Ser Leu Val Phe Thr Tyr Pro Ser Thr
85 225         230         235         240
86 Pro Glu Pro Cys Ala Ser Ala His Arg Lys Ser Ser Ser Ser Gly
87          245         250         255
88 Asp Pro Ser Ser Asp Pro Leu Gly Ser Pro Thr Leu Leu Ala Leu
89          260         265         270

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92 &lt;210&gt; SEQ ID NO: 3

93 &lt;211&gt; LENGTH: 822

94 &lt;212&gt; TYPE: DNA

95 &lt;213&gt; ORGANISM: MUS MUSCULUS

97 &lt;400&gt; SEQUENCE: 3

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98 atgtaccgag actacgggga accgggaccg agctccgggg ctggcagcgc gtacggtcgc 60
99 cccgcgcagc ccccgcgaagc tcaggcacag accgcccagc agcagaagtt ccactttgtg 120
100 ccaagcatcg acagcagcag ccaggaactg cactggatgg tgcagcctca tttcctggga 180
101 cccactggct atccccgacc tctggcctat cccagtaga gtccccctca gccccggcca 240
102 ggagtcatac gagccctagg gccacctccg ggggtgcgtc gcaggccctg cgagcagatc 300
103 agccagagag aggaagagcg ccgcagggtg agacgcgagc ggaacaagct agcagctgct 360
104 aagtgcagaa accgaagaaa ggagctgaca gacttcctgc aggcggagac cgacaaattg 420
105 gaggatgaga aatcggggct gcagcgagag attgaagagc tgcagaagca gaaggaacgc 480
106 cttgagctgg tgctggaagc ccatcgctc atctgcaaaa tcccagaagg agacaagaag 540
107 gacccaggtg gttctggcag caccagcggg gctagcagcc caccagcccc cggccgcca 600
108 gtgccttgca tctccctttc tccaggaccc gtacttgaac cggaagcact gcatacccc 660
109 acgctcatga ccacaccctc tctgactcct ttactccga gtctggtttt cacctatcct 720

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110 agcacaccag aaccttgctc ctccactcac cgaaagagta gcagcagcag tggcgacccc 780  
 111 tcctccgacc ccctgggctc tcctacactc ctggctttgt ga 822

113 &lt;210&gt; SEQ ID NO: 4

114 &lt;211&gt; LENGTH: 273

115 &lt;212&gt; TYPE: PRT

116 &lt;213&gt; ORGANISM: MUS MUSCULUS

118 &lt;400&gt; SEQUENCE: 4

119 Met Tyr Arg Asp Tyr Gly Glu Pro Gly Pro Ser Ser Gly Ala Gly Ser

120 1 5 10 15

121 Ala Tyr Gly Arg Pro Ala Gln Pro Pro Gln Ala Gln Ala Gln Thr Ala

122 20 25 30

123 Gln Gln Gln Lys Phe His Phe Val Pro Ser Ile Asp Ser Ser Ser Gln

124 35 40 45

125 Glu Leu His Trp Met Val Gln Pro His Phe Leu Gly Pro Thr Gly Tyr

126 50 55 60

127 Pro Arg Pro Leu Ala Tyr Pro Gln Tyr Ser Pro Pro Gln Pro Arg Pro

128 65 70 75 80

129 Gly Val Ile Arg Ala Leu Gly Pro Pro Pro Gly Val Arg Arg Arg Pro

130 85 90 95

131 Cys Glu Gln Ile Ser Pro Glu Glu Glu Glu Arg Arg Arg Val Arg Arg

132 100 105 110

133 Glu Arg Asn Lys Leu Ala Ala Ala Lys Cys Arg Asn Arg Arg Lys Glu

134 115 120 125

135 Leu Thr Asp Phe Leu Gln Ala Glu Thr Asp Lys Leu Glu Asp Glu Lys

136 130 135 140

137 Ser Gly Leu Gln Arg Glu Ile Glu Glu Leu Gln Lys Gln Lys Glu Arg

138 145 150 155 160

139 Leu Glu Leu Val Leu Glu Ala His Arg Leu Ile Cys Lys Ile Pro Glu

140 165 170 175

141 Gly Asp Lys Lys Asp Pro Gly Gly Ser Gly Ser Thr Ser Gly Ala Ser

142 180 185 190

143 Ser Pro Pro Ala Pro Gly Arg Pro Val Pro Cys Ile Ser Leu Ser Pro

144 195 200 205

145 Gly Pro Val Leu Glu Pro Glu Ala Leu His Thr Pro Thr Leu Met Thr

146 210 215 220

147 Thr Pro Ser Leu Thr Pro Phe Thr Pro Ser Leu Val Phe Thr Tyr Pro

148 225 230 235 240

149 Ser Thr Pro Glu Pro Cys Ser Ser Thr His Arg Lys Ser Ser Ser Ser

150 245 250 255

151 Ser Gly Asp Pro Ser Ser Asp Pro Leu Gly Ser Pro Thr Leu Leu Ala

152 260 265 270

153 Leu

157 &lt;210&gt; SEQ ID NO: 5

158 &lt;211&gt; LENGTH: 1145

159 &lt;212&gt; TYPE: DNA

160 &lt;213&gt; ORGANISM: HOMO SAPIENS

162 &lt;400&gt; SEQUENCE: 5

163 attctctccc cagcttgctg agccctttgc tccctggcg actgcctgga cagtcagcaa 60

164 ggaattgtct ccagtgcat tttgccctcc tggctgccaa ctctggctgc taaagcggct 120

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165 gccacctgct gcagtctaca cagcttcggg aagaggaaag gaacctcaga ccttccagat 180
166 cgcttcctct cgcaacaaac tatttgctgc aggaataaag atggctgctg aaccagtaga 240
167 agacaattgc atcaactttg tggcaatgaa atttattgac aatacgcttt actttatagc 300
168 tgaagatgat gaaaacctgg aatcagatta ctttggcaag cttgaatcta aattatcagt 360
169 cataagaaat ttgaatgacc aagttctctt cattgaccaa ggaaatcggc ctctatttga 420
170 agatatgact gattctgact gtagagataa tgcaccccg accatattta ttataagtat 480
171 gtataaagat agccagccta gaggatggc tgtaactatc tctgtgaagt gtgagaaaat 540
172 ttcaactctc tcctgtgaga acaaaattat ttctttaag gaaatgaatc ctcctgataa 600
173 catcaaggat acaaaaagtg acatcatatt ctttcagaga agtgtcccag gacatgataa 660
174 taagatgcaa tttgaatctt catcatacga aggatacttt ctagcttggtg aaaaagagag 720
175 agaccttttt aaactcattt tgaaaaaaga ggatgaattg ggggatagat ctataatggt 780
176 cactgttcaa aacgaagact agctattaaa atttcatgcc gggcgagtg gctcacgcct 840
177 gtaatcccag ccctttggga ggctgaggcg ggcagatcac cagaggtcag gtgttcaaga 900
178 ccagctgac caacatggtg aaacctcatc tctactaaaa atacaaaaaa ttagctgagt 960
179 gtagtgacgc atgccctcaa tcccagctac tcaagaggct gaggcaggag aatcacttgc 1020
180 actccggagg tagaggttgt ggtgagccga gattgcacca ttgcgctcta gcctgggcaa 1080
181 caacagcaaa actccatctc aaaaaataaa ataaataaat aaacaaataa aaaattcata 1140
182 atgtg 1145

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184 &lt;210&gt; SEQ ID NO: 6

185 &lt;211&gt; LENGTH: 193

186 &lt;212&gt; TYPE: PRT

187 &lt;213&gt; ORGANISM: HOMO SAPIENS

189 &lt;400&gt; SEQUENCE: 6

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190 Met Ala Ala Glu Pro Val Glu Asp Asn Cys Ile Asn Phe Val Ala Met
191 1 5 10 15
192 Lys Phe Ile Asp Asn Thr Leu Tyr Phe Ile Ala Glu Asp Asp Glu Asn
193 20 25 30
194 Leu Glu Ser Asp Tyr Phe Gly Lys Leu Glu Ser Lys Leu Ser Val Ile
195 35 40 45
196 Arg Asn Leu Asn Asp Gln Val Leu Phe Ile Asp Gln Gly Asn Arg Pro
197 50 55 60
198 Leu Phe Glu Asp Met Thr Asp Ser Asp Cys Arg Asp Asn Ala Pro Arg
199 65 70 75 80
200 Thr Ile Phe Ile Ile Ser Met Tyr Lys Asp Ser Gln Pro Arg Gly Met
201 85 90 95
202 Ala Val Thr Ile Ser Val Lys Cys Glu Lys Ile Ser Thr Leu Ser Cys
203 100 105 110
204 Glu Asn Lys Ile Ile Ser Phe Lys Glu Met Asn Pro Pro Asp Asn Ile
205 115 120 125
206 Lys Asp Thr Lys Ser Asp Ile Ile Phe Phe Gln Arg Ser Val Pro Gly
207 130 135 140
208 His Asp Asn Lys Met Gln Phe Glu Ser Ser Ser Tyr Glu Gly Tyr Phe
209 145 150 155 160
210 Leu Ala Cys Glu Lys Glu Arg Asp Leu Phe Lys Leu Ile Leu Lys Lys
211 165 170 175
212 Glu Asp Glu Leu Gly Asp Arg Ser Ile Met Phe Thr Val Gln Asn Glu
213 180 185 190
214 Asp
218 <210> SEQ ID NO: 7

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## RAW SEQUENCE LISTING

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TIME: 14:45:42

Input Set : A:\TSRI9861SEQ.TXT

Output Set: N:\CRF4\11282006\J574752.raw

219 &lt;211&gt; LENGTH: 579

220 &lt;212&gt; TYPE: DNA

221 &lt;213&gt; ORGANISM: MUS MUSCULUS

223 &lt;400&gt; SEQUENCE: 7

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225 acgctttact ttatacctga agaaaatgga gacctggaat cagacaactt tggccgactt 120
226 cactgtacaa ccgcagtaat acggaatata aatgaccaag ttctcttcgt tgacaaaaga 180
227 cagcctgtgt tcgaggatat gactgatatt gatcaaagtg ccagtgaacc ccagaccaga 240
228 ctgataatat acatgtacaa agacagtga gtaagaggac tggctgtgac cctctctgtg 300
229 aaggatagta aaatgtctac cctctcctgt aagaacaaga tcatttcctt tgaggaaatg 360
230 gatccacctg aaaatattga tgatatacaa agtgatctca tattctttca gaaacgtgtt 420
231 ccaggacaca acaagatgga gtttgaatct tctactgtat aaggacactt tcttgcttgc 480
232 caaaaggaag atgatgcttt caaactcatt ctgaaaaaaa aggatgaaaa tggggataaa 540
233 tctgtaatgt tcaactctac taacttacat caaagttag 579

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235 &lt;210&gt; SEQ ID NO: 8

236 &lt;211&gt; LENGTH: 192

237 &lt;212&gt; TYPE: PRT

238 &lt;213&gt; ORGANISM: MUS MUSCULUS

240 &lt;400&gt; SEQUENCE: 8

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242 1 5 10 15
243 Phe Ile Asp Asn Thr Leu Tyr Phe Ile Pro Glu Glu Asn Gly Asp Leu
244 20 25 30
245 Glu Ser Asp Asn Phe Gly Arg Leu His Cys Thr Thr Ala Val Ile Arg
246 35 40 45
247 Asn Ile Asn Asp Gln Val Leu Phe Val Asp Lys Arg Gln Pro Val Phe
248 50 55 60
249 Glu Asp Met Thr Asp Ile Asp Gln Ser Ala Ser Glu Pro Gln Thr Arg
250 65 70 75 80
251 Leu Ile Ile Tyr Met Tyr Lys Asp Ser Glu Val Arg Gly Leu Ala Val
252 85 90 95
253 Thr Leu Ser Val Lys Asp Ser Lys Met Ser Thr Leu Ser Cys Lys Asn
254 100 105 110
255 Lys Ile Ile Ser Phe Glu Glu Met Asp Pro Pro Glu Asn Ile Asp Asp
256 115 120 125
257 Ile Gln Ser Asp Leu Ile Phe Phe Gln Lys Arg Val Pro Gly His Asn
258 130 135 140
259 Lys Met Glu Phe Glu Ser Ser Leu Tyr Glu Gly His Phe Leu Ala Cys
260 145 150 155 160
261 Gln Lys Glu Asp Asp Ala Phe Lys Leu Ile Leu Lys Lys Lys Asp Glu
262 165 170 175
263 Asn Gly Asp Lys Ser Val Met Phe Thr Leu Thr Asn Leu His Gln Ser
264 180 185 190

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267 &lt;210&gt; SEQ ID NO: 9

268 &lt;211&gt; LENGTH: 228

269 &lt;212&gt; TYPE: DNA

270 &lt;213&gt; ORGANISM: MUS MUSCULUS

272 &lt;400&gt; SEQUENCE: 9

273 atgcagatct tcgtgaagac cctgaccggc aagaccatca ccctagaggt ggagcccagt 60

**VERIFICATION SUMMARY**

PATENT APPLICATION: US/10/574,752

DATE: 11/28/2006

TIME: 14:45:43

Input Set : A:\TSRI9861SEQ.TXT

Output Set: N:\CRF4\11282006\J574752.raw